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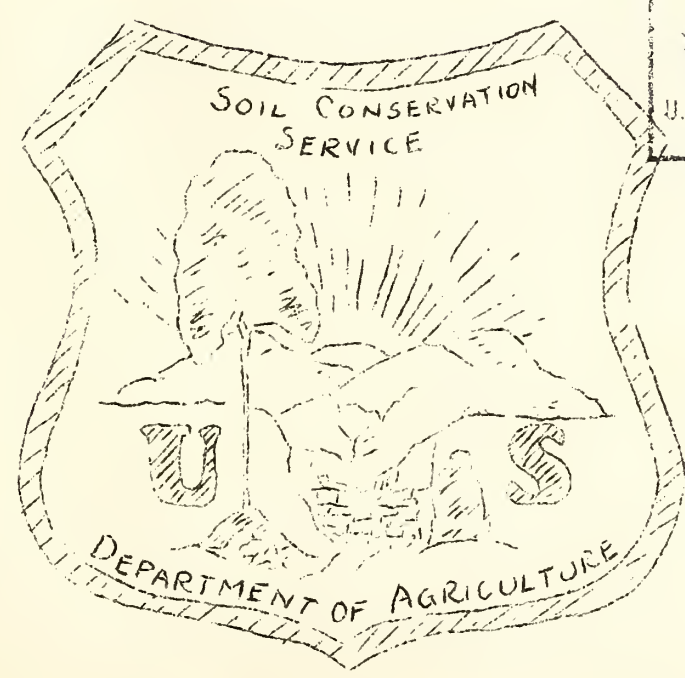
HELEN M. STRONG

CROOKED CREEK CRIER



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1935

PROJECT 29
INDIANA , PENNSYLVANIA

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" CROOKED CREEK CRIER "

Published periodically at Indiana, Pennsylvania by the
SOIL CONSERVATION SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE

Dr. Austin L. Patrick, Regional Director

Editors -- J. Kenneth Terres
John T. Bregger

Contributors-- Soil Conservation
Service

Volume I

August 1935

No. 2

A WORD FROM THE DIRECTOR

The Soil Conservation Service has developed a program of land use, based on facts and approved by the agricultural leaders of Pennsylvania.

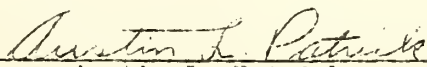
It is well known that changes and modifications must be made if our most valuable and indispensable resource - fertile top soil - is to be conserved.

Soil erosion is going on at such a rate that immediate steps must be taken to check it if we are not to become a nation of subsoil farmers.

The practices proposed by the Soil Conservation Service are designed, not only to reduce soil erosion and surface runoff, but to aid in building soil fertility. The entire program is directed toward aiding the farmer in the most practical manner possible.

This is not a farm relief program; it is not compulsory; materials and labor used in improving the farm are not charged to the farmer, but supplied in order that his farm will attract interest and serve as an example for others to follow.

Not every farm in the Project Area can or will be set up as a demonstration. Farmers who are not now receiving this service should, therefore, acquaint themselves with the work being done on a nearby farm, visit and observe what has been done and how these changes are improving conditions.


Austin L. Patrick
Director, Crooked Creek Project

The Contact Department Speaks! !

The farmers of the Crooked Creek Area are responding to the call for cooperators in putting on a successful erosion control demonstration in a most encouraging fashion. Of course there is no reason why an owner or a tenant should not join whole-heartedly in this great onslaught against the greatest enemy of Agriculture--Soil Erosion! The farmer has everything to gain and nothing to lose in adopting the plan.

The men of the Contact Department are working day and night in an effort to answer the farm calls that are coming in continually. A total of 330 signed invitation cards are on file, and to date about 100 erosion control plans have been completed with the five-year agreements signed. This means that 230 are still on the waiting list, and we beg of these people not to become impatient, for we are doing our best to get around to them as soon as it is humanly possible. In the meantime, don't be misled by wild rumors or by false prophets.

This big coordinated attack by the Government on soil erosion has received the hearty endorsement of prominent people in all walks of life. Any one who understands the problem and who has the best interests of the present as well as the future generations at heart, cannot do otherwise. Therefore, when you hear anything about the program that sounds foolish or unreasonable, don't believe it until you get the facts at our office in Indiana, or from one of the field men! Every farmer owes it first of all to himself, then to his children to get all the facts about what the Soil Conservation Service is doing. Then he will be the rare exception if he does not find himself in the company of those who will reap the benefits of this Government Service.

Please read every page of the "Crier" carefully. Note the many valuable things that are being done on cooperating farms along the line of gully control, forestry, fencing, strip cropping, pasture and hay improvement, erosion control, rotations, etc. Read over the list of names of cooperators carefully, and ask any of them what they think of the program. Read some of their testimonials in this issue. Then before you forget it, write or call the Soil Conservation Service, Indiana, Pa., and ask that your name be put on the list for an early visit. In due time a contact man will call and explain in detail exactly how an erosion control program would function on your farm and the benefits that would accrue from joining with the Government in this great enterprise.

SOIL INVENTORY

Mapping Progress and Methods

Before August 10, 1935, the soil and erosion surveyors had completed the survey of 700 farms. The total acreage of these farms was 76,000 acres, or almost two-thirds of the area of the Crooked Creek Watershed.

Most of this soil mapping has been done in the eastern part of the area where almost all the farms have now been mapped. The aerial photographs for the western part of the area, including Parkwood, Shelocta, Elderton and Atwood were not received until July, consequently the mapping of these districts was delayed. It is now being rushed to completion, however, in order to catch up with the eastern part of the area.

Practically all of the farms for which request cards have been received are now mapped. As new cards come in, the soils men go to these farms and map them within a few days. Other farms, where no request cards have been received, are being mapped with the permission of the owner or tenant. It is hoped that the mapping of the entire area will be completed this year.

Most of the people who have seen the soil and erosion surveyors at work have wondered just how they determine what to put on the map. The base maps on which this information will be shown are photographs taken from an aeroplane flying at a height of more than two miles. These photographs alone show a great deal of information. Roads, buildings, fields and woodlots are easily seen and identified. These maps also show the location of each farm, field boundaries, etc. Information obtained by the surveyor is then added to the map.

An auger is used to examine the soils, noting the color and texture of the surface soil, the character of the subsoil, and other features of the soil profile. By comparing the surface soil in cultivated areas and wooded areas, the amount of soil that has been lost from each field by erosion may be estimated. A hand level is used to measure the percent of slope. Boundary lines are then drawn on the map to show every area large enough to be considered in land use plans. Each of these soil conditions, present land use, slope, and erosion are marked on the aerial map by a symbol. When the farm map is completed, copies are prepared for the use of the contact men in discussing the problems of each individual farm with its owner or operator. Any changes in the farming system are then based on the adaptations of each individual field with the correct use of the land as the major aim.

Farmers Co-operating

- | | |
|---|-------------------------|
| 1. McElhoes, Roy | Home, R. D. #1 |
| 2. Wetzell, Harry | Marion Center |
| 3. Warner, John W. | Indiana, R. D. #1 |
| 4. Sourwine, J. V. | Creekside, R. D. #1 |
| 5. Miller, Clayton | Creekside, R. D. #2 |
| 6. Fulmer, James W. | Marion Center, R. D. #2 |
| 7. Avey, Mrs. Sara A. | Marion Center, R. D. #2 |
| 8. Walker, W. Paul | Marion Center |
| 9. McElhoes, Joseph I. | Home, R. D. #1 |
| 10. Wells, Labana S. | Home, R. D. #1 |
| 11. Streams, Harry B. | Clymer, R. D. #1 |
| 12. Glasser, Earl L. | Marion Center, R. D. #1 |
| 13. Glasser, Charles F. | Marion Center, R. D. #1 |
| 14. Kinter, Andrew R. | Indiana, R. D. #7 |
| 15. Kinter, Charles E. | Marion Center, R. D. #1 |
| 16. Walker, Benjamin & Thomas A. | Marion Center, Pa. |
| 17. Pfeiffer, Harry | Marion Center, R. D. #1 |
| 18. Little, Norman L. | Creekside, R. D. #1 |
| 19. Malcom, Mrs. Charlotte B. | Indiana, R. D. #2 |
| 20. Jamison, Sara B. & W. Clark | Home, R. D. #2 |
| 21. Steele, Lester D. | Marion Center, R. D. #2 |
| 22. Weiss, Samuel E. | Marion Center, R. D. #1 |
| 23. Kirkland, Chester | Clymer, R. D. #1 |
| 24. Yeomans, Nancy J. | Creekside, R. D. #1 |
| 25. Stephenson, David | Marion Center, R. D. #1 |
| 26. Washington, Oran B. | Marion Center, R. D. #1 |
| 27. Aul, Clark E. | Indiana, R. D. #2 |
| 28. Pfeiffer, E. E. | Marion Center, R. D. #3 |
| 29. Weiss, Herbert W. | Marion Center, R. D. #1 |
| 30. Fetterman, L. T. | Marion Center, R. D. #1 |
| 31. Mabon, Clair | Indiana, R. D. #7 |
| 32. Park, Frank & Elizabeth | Marion Center, R. D. #1 |
| 33. McHenry, Clarence | Indiana, R. D. |
| 34. Coleman, Ross | Indiana, R. D. #1 |
| 35. McMillen, Charles M. | Indiana, R. D. #7 |
| 36. McMillen, Ord T. | Home, R. D. #1 |
| 37. McMillen, Samuel A. | Home, R. D. #1 |
| 38. McHenry, Herbert | Indiana, R. D. #1 |
| 39. Lydick, E. N. | Indiana, R. D. #3 |
| 40. Rinn, D. F. (Wm. Hopkins Opr.) | Indiana, R. D. #2 |
| 41. Rinn, D. F. (Doty-Opr.) | Indiana, R. D. #2 |
| 42. Shurr, Martha J. | Home, R. D. |
| 43. Good, I. C. | Indiana, R. D. #3 |
| 44. Bothell, Clarence | Creekside, R. D. #1 |
| 45. Shank, J. E. | Indiana, R. D. #3 |
| 46. Nichol, Ralph S. | Home, R. D. #1 |
| 47. Haer, Fred G. | Marion Center, R. D. #1 |
| 48. Freck, Miss Jettie | Home, R. D. #1 |
| 49. Aultman, Mrs. Effie & Miss Jettie Freck | Marion Center, R. D. #1 |
| 50. Bell, C. T. | Creekside, R. D. #2 |

Farmers Co-operating

| | |
|---|-------------------------|
| 51. Marshall, J. D. & R. D. | Beyer |
| 52. Marshall, James D. | Beyer |
| 53. Marshall, R. D. | Beyer |
| 54. Black, G. W. | Home, R. D. #1 |
| 55. Williams, Benton R. | Indiana |
| 56. Smith, John Howard | Marion Center |
| 57. Heilbrun, James B. | Ernest--Box 323 |
| 58. Prothero, Charles G. | Indiana |
| 59. Little, Sylvester | Indiana, R. D. #1 |
| 60. Weaver, Solomon W. | Home |
| 61. Brady, Arley A. | Home, R. D. #1 |
| 62. Hamilton, Bessie K. | Home, R. D. #1 |
| 63. Whitacre, I. N. | Indiana, R. D. |
| 64. Kottering, C. M. | Creekside, R. D. #1 |
| 65. McMillon, Charles A. | Indiana, R. D. #1 |
| 66. Stadtmiller, Ralph | Home, R. D. #2 |
| 67. Brandon, Thomas | Creekside, R. D. #2 |
| 68. Lingenfelter, Mary C. | Home, R. D. #2 |
| 69. Washington, O. B. & J. N. | Marion Center, R. D. #1 |
| 70. Liszowski, John & Teofile | Creekside |
| 71. Craig, Samuel M. | Home, R. D. #2 |
| 72. Freck, Frank L. | Home, R. D. #1 |
| 73. Lowman, W. B. | Marion Center, R. D. #1 |
| 74. Keener, Mrs. Vernie G. | Home, R. D. #2 |
| 75. Haer, Wm. Lewis | Marion Center, R. D. #1 |
| 76. Conrad, Homer | Marion Center, R. D. #1 |
| 77. Mears, Irwin K. | Indiana, R. D. #7 |
| 78. Steffy, Norman | Marion Center, R. D. #2 |
| 79. Fleming, Murray | Creekside, R. D. #1 |
| 80. Griffith, Geo. S. | Plumville |
| 81. Hill, David R. and Howard | Home, R. D. #2 |
| 82. Douds, Margaret J. | Plumville, R. D. #1 |
| 83. Aul, Thomas, C. | Indiana, R. D. #7 |
| 84. Kline, Harry C. | Indiana, R. D. #6 |
| 85. Boyer, Edward H. | Creekside, R. D. #2 |
| 86. Kimmel, J. Paul | Shelocta, R. D. #1 |
| 87. McLaughlin, Charles W. | Home, R. D. #2 |
| 88. Rinn, Daniel F. (A. J. Sharp-Opr.) | Shelocta, R. D. #1 |
| 89. Myers, J. Calvin | Marion Center, R. D. #1 |
| 90. Buchanan, Alexander Meade | Home, R. D. #2 |
| 91. Calhoun, Porter & Wm. | Shelocta, R. D. #2 |
| 92. Groft, Jacob A. L. & Bennett, Karle | Home, R. D. #2 |
| 93. Bailey, Naamen | Creekside, R. D. #1 |
| 94. Fisher, Frank J. | Creekside, R. D. #2 |
| 95. Wynkoop, Harry S. | Marion Center, R. D. #1 |
| 96. Wolfe, Alton D. | Indiana, R. D. #1 |
| 97. Kunkle, S. P. | Creekside, R. D. #2 |
| 98. Hadden, Stella M. | Creekside |
| 99. Craig, Frank C. | Shelocta, R. D. #3 |

WHAT OUR COOPERATORS SAY

"I feel that the farmers in the Crooked Creek Watershed are fortunate in having the Soil Conservation Service in their territory. It is certainly a work well worth while and one in which every farmer should try to cooperate."

Clayton Miller
Creekside, Pa.

"I think the erosion work is a fine thing for this County. There should be more of it done. It should have been done years ago and we would now be reaping the benefit of it."

C. T. Bell
Creekside, R. D. #2

"The most worthwhile work that the present administration had done. Material being used is of a lasting nature. I have had planting of 8125 trees on my farm, also fencing and lime, fertilizer and grass seed and everything that has been done is more than satisfactory. The check dams of wire, stone, bags and brush have withstood the recent heavy rains and will eventually fill up my gullies."

Ben Walker
Marion Center, Pa. R. D. #1

"They built me some wonderful fence-bar better than any other fence I have. The trees that we planted were planted right and we have about 99% success with the planting. The strip-cropping is the only right way to farm in this County. The C.C.C. boys are gentlemenly and have used me good and we are glad to have the camp boys here. I think the entire program will be of more benefit to this watershed than anything else that the Government could have done."

Andrew R. Kinter
Indiana, Pa., R. D. #7

"The Soil Conservation Service, from what I have seen, is a mighty good proposition to take care of these hills. It is the only way to prevent erosion. Strip-cropping on the hills is a good proposition."

The C. C. C. boys are building an elegant fence. I think all the knolls and knobs on the hills should be planted to trees as well as the steep side hills.

S. M. Craig
Home, Pa.

"The only thing I see wrong with the Soil Erosion Idea is it should have been started twenty-five (25) or fifty (50) years ago. While it is beneficial, it is also educational."

The farmer who is saving soil is also saving money. Now is the golden opportunity to build up these barren fields and hills.

Charles B. Fair
R. D. #2, Home, Pa.

AGRONOMY

Sod forming crops have long been recognized as one of the farmers' greatest aids in controlling soil and water run-off. For the seeding of old and the establishment of new pastures, as well as the seeding of permanent hay fields on slopes too steep for production of row crops, the Soil Conservation Service in cooperation with the Pennsylvania State Extension Service has devised various approved pasture and hay mixtures.

The following seed mixtures have been designed for specific uses, not only in furnishing good feed but in effecting satisfactory erosion control:--

Pasture mixture for thin land:

| | |
|------------------------------|----------------|
| Orchard grass----- | 7 lbs. |
| Kentucky blue-grass----- | 6 " |
| Canada blue-grass----- | 6 " |
| Timothy----- | 5 " |
| Wild White Dutch Clover----- | 1 " |
| Total | <u>30 lbs.</u> |

The purpose of the orchard grass and timothy is not only to furnish excellent pasturage but to obtain a quick coverage of the soil to prevent washing. The Canada blue-grass and redtop make a quicker and more satisfactory growth on thin land than Kentucky blue-grass, but are not as long lived. Consequently the Kentucky will gradually replace the other grasses in a few years. The Wild White Dutch Clover is more hardy than ordinary White Dutch clover, and offers a nutritious feed for livestock and increases the soil fertility.

For reseeding old pastures, use ten to twenty pounds of the above mixture per acre, according to the thinness of stand of desirable pasture grasses. For new seedings, twenty-five to thirty-five pounds, according to the fertility of the soil, are recommended.

Pasture mixture for fairly fertile cultivated land.

| | |
|------------------------------|----------------|
| Rye-grass----- | 13 lbs. |
| Kentucky blue-grass----- | 8 " |
| Canada blue-grass----- | 8 " |
| Wild White Dutch Clover----- | 1 " |
| Total | <u>30 lbs.</u> |

The advantage of the rye-grass is that it acts as a nurse crop for the blue-grasses and forms a quick coverage of the soil. The length of life of the rye-grass is usually not more than two years but by that time the blue grasses will have become well started, resulting in an erosion resisting sod.

The rate of seeding will vary from twenty-five to thirty-five pounds per acre according to the condition of the land. A nurse crop is not always necessary but may be used if desired.

Hay mixture for use where alfalfa may be expected to grow satisfactorily.

| | |
|-----------------|-----------------|
| Alfalfa----- | 8 lbs. per acre |
| Timothy----- | 6 " " " |
| Red Clover----- | 4 " " " |

Eight pounds of alfalfa will furnish seed enough to establish a good stand of plants per acre if the lime, fertilizer, and seed bed requirements are met. The timothy and red clover serve as an insurance in case the alfalfa fails to catch, and aids in filling the vacant spaces on the ground between the alfalfa plants, thus offering better protection against erosion. The mixture of these three crops yield more than alfalfa alone the first year, and after that the timothy and clover gradually disappear.

The quality of the timothy for hay is greatly improved by cutting it when the alfalfa is ready. The nutritive value as well as the palatability of the timothy is higher when cut about the time the alfalfa is in the one-tenth to one-half bloom stage.

The preceding hay mixture may be seeded with a nurse crop if desired. If fall wheat is used as the nurse crop the timothy may be seeded with the wheat in the fall and the clover and alfalfa being seeded in the early spring.

Hay mixture where alfalfa may not grow so satisfactorily but will catch.

| | |
|-----------------|-----------------|
| Red Clover----- | 8 lbs. per acre |
| Timothy----- | 6 " " " |
| Alfalfa----- | 4 " " " |

Good stands of red clover and timothy are easily obtained under some conditions which are not so favorable for alfalfa. A small amount of alfalfa however, greatly improved the quality of the hay as well as increasing the soil fertility.

Fall or spring seeding may be followed in the same manner as described in the preceding mixture.

Hay mixture suggested for use on low, rather poorly drained areas.

| | |
|--------------------|------------------|
| Timothy----- | 10 lbs. per acre |
| Red Clover----- | 4 " " " |
| Alsike Clover----- | 3 " " " |

Timothy will produce a crop of hay under conditions which are too wet for the clovers. Alsike clover is quite resistant to soil acidity, a condition usually found on poorly drained soils.

Mixture for seeding gullies.

| | |
|------------------------------|----------------|
| Rye-grass----- | 10 lbs. |
| Orchard grass----- | 7 " |
| Kentucky blue-grass----- | 6 " |
| Canada blue-grass----- | 6 " |
| Redtop----- | 5 " |
| Wild White Dutch Clover----- | 1 " |
| Total | <u>35 lbs.</u> |

The rye-grass and orchard grass are used primarily for quick growth and coverage on the sloped gully banks until a good blue-grass and clover sod can be established. Most of these gully banks are composed principally of subsoil. Therefore the redtop is included in this mixture because it will grow under these adverse conditions.

FORESTRY'S PART ON THE CROOKED CREEK PROJECT

Nature in her organization has so dovetailed each part or function that a balance is reached and maintained under undisturbed conditions. Man, however, has upset this balance and because of this there is need for constant readjustment.

Forests originally covered the major portion of eastern United States. Pennsylvania takes its name from the fact that forests (silva) covered the land at the time William Penn acquired it, and when it became known a "Penns Woods".

The first settlers cleared away the forests and the demand for more and more agricultural land resulted in the removal of all vegetation from hill-sides and flats until over half the lower areas of the state had been cleared for the plow. Beating rains and rushing surface waters carried the fertile top soil away, crop yields declined, and once prosperous farms were abandoned and left to be reclaimed by woody vegetation. Nature again takes up the task of reclothing and rehabilitating these discarded acres. In time, forests will again dominate, and soils will be protected from the elements. Soil fertility will slowly but surely be built up, but unfortunately it will take thousands of years before that fine natural balance brought about in Nature can again appear.

Much can be done to restore a vegetative cover, reduce soil erosion, prevent excessive water loss through surface runoff, and return idle, unproductive acres to a state of productiveness. The planting of new forests will accomplish these things.

It is the aim of the Forestry Department of the Soil Conservation Service to aid in this reforestation. Trees will be planted on eroding and unproductive land. As far as possible, the Soil Conservation Service will furnish these trees to the farmer and will plant them. The number of trees now available is limited, but where the farmer will supply them, the Soil Conservation Service will direct their planting. This past spring 113,991 trees were supplied farmers and planted on 99 farms in this area. It is planned to plant a million or more this fall and next spring.

Forests should not be clear cut. They should be so managed that maximum growing stock is present with a periodic harvest resulting in the development of a healthier, more valuable woodland.

The Forestry Department will be willing to aid in developing a management plan for the farm woodlot. This plan will be much like the cropping plan worked out by the contact men for the field crops. At this time over seven hundred (700) acres have been inventoried and data prepared.

ENGINEERING

Gully Control

There are two phases of gully control: (1) the checking and control of present gullies, and (2) prevention in the formation of future gullies.

Several methods are used in checking gullies. These include (1) stabilization by means of check dams, (2) seeding and sodding, and (3) diverting runoff water out and away from the gully location.

The check dams which have been used in the Crooked Creek Watershed are of the wire, log, stone, brush, and sod bag types. Of these, the brush dams and sod bag dams have been most widely used.

To afford the maximum protection to the gully, the check dams should be constructed water tight. Many farmers try to control gullies by throwing brush, old fence posts, and other waste material in them in a haphazard manner. This gives very little protection as the water simply flows under or around the trash while the cutting and scouring of the soil continues. On the other hand, if the old posts are placed crosswise in the gully with the brush layed in and staked down firmly against the bottom of the gully, considerable protection will be given.

Wherever possible the water is diverted from the gully by means of a broad shallow ditch known as a diversion ditch. The water is discharged from this ditch into a well stabilized drainage channel, woods, or on a well sodded slope. The water is dispersed in a thin sheet by means of a spreader board. This method makes it possible to plow in and seed a gully without danger of the washing continuing. The use of the diversion ditch makes check dams unnecessary and requires less maintenance work.

The diversion ditch prevents the formation of gullies. On slopes that are steep and where very small gullies are forming, a diversion ditch can be used to intercept the water as it flows down the slope and conduct it to a well protected outlet channel which can be either natural or artificial.

On slopes that are not too steep, terraces can be built to control the run-off water and prevent the formation of gullies. Very few terraces, if any, have been used in Pennsylvania. However, plans are being formulated to do some terracing in the Crooked Creek Watershed in the near future.

At the present time, engineering work has been done on 15 farms, involving construction of 78 check dams and 1129 feet of diversion ditches. The total area benefited by this work is 73 acres. The engineering work has been planned and layed out on several additional farms and is ready for construction to begin.

FARM MANAGEMENT

Soon after the Crooked Creek Watershed was approved as a Soil Conservation Project, it was planned to make a detailed farm management and social survey of the area. During the months of April and May records were obtained on 458 farms for the 12-months period from April 1, 1934 to April 1, 1935. This means 63 per cent of the actively operated farms and 40 per cent of the entire area of 120,000 acres in the watershed.

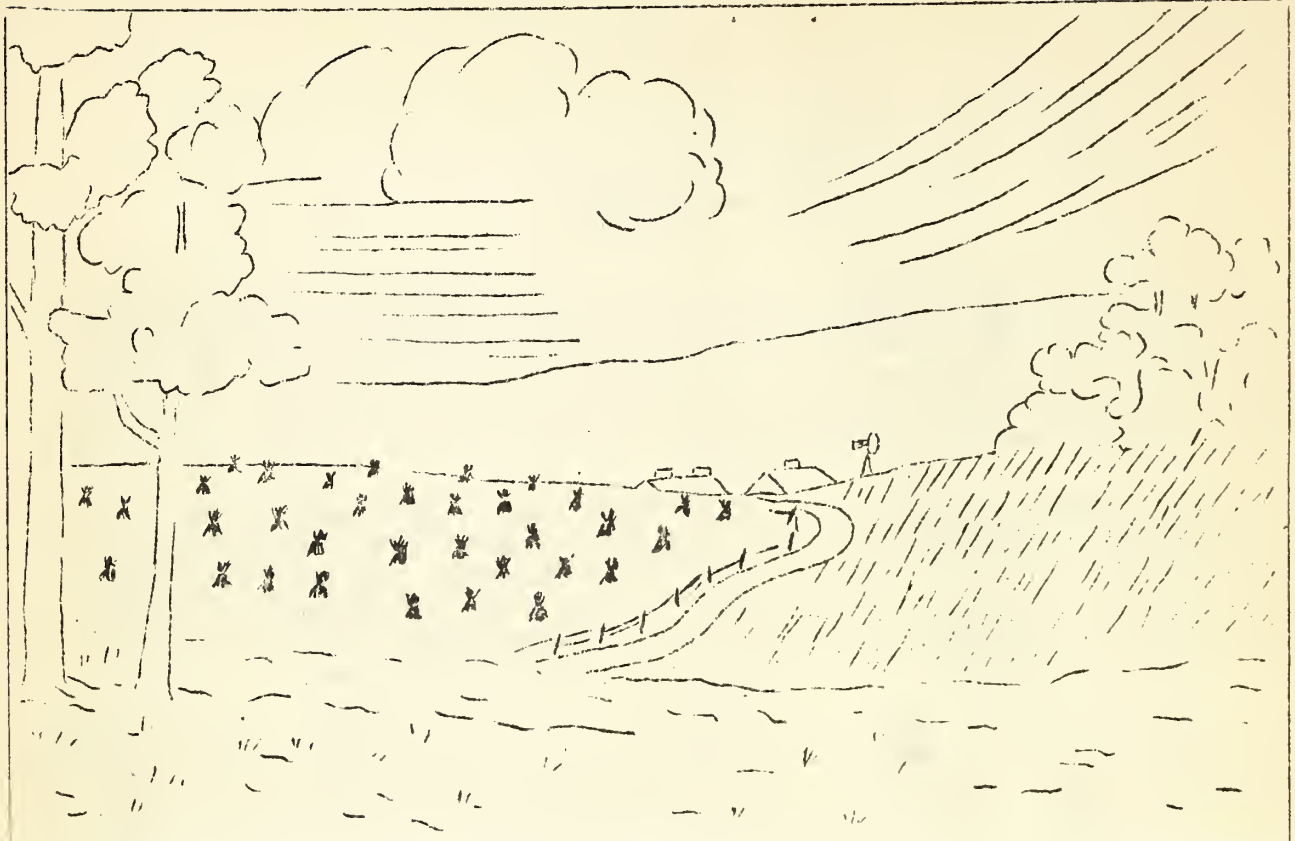
The important farm management data obtained by the survey includes: (1) acres, yields, and sales of each crop grown, (2) number and value of type of livestock on hand at the beginning and end of the year, (3) seed, fertilizer, lime, manure, and disease control practices on crops, (4) livestock feeding practices, (5) inventory and value of all farm equipment, (6) detailed account of all receipts and expenses, and (7) investment in real estate.

The social data obtained includes:- (1) age, sex, nationality, and extent of schooling for each member of the family, (2) number and type of organizational and non-organizational contacts, (3) conveniences in the home, such as electricity and running water, (4) reading material received in the home, and (5) former occupations of the farm operator.

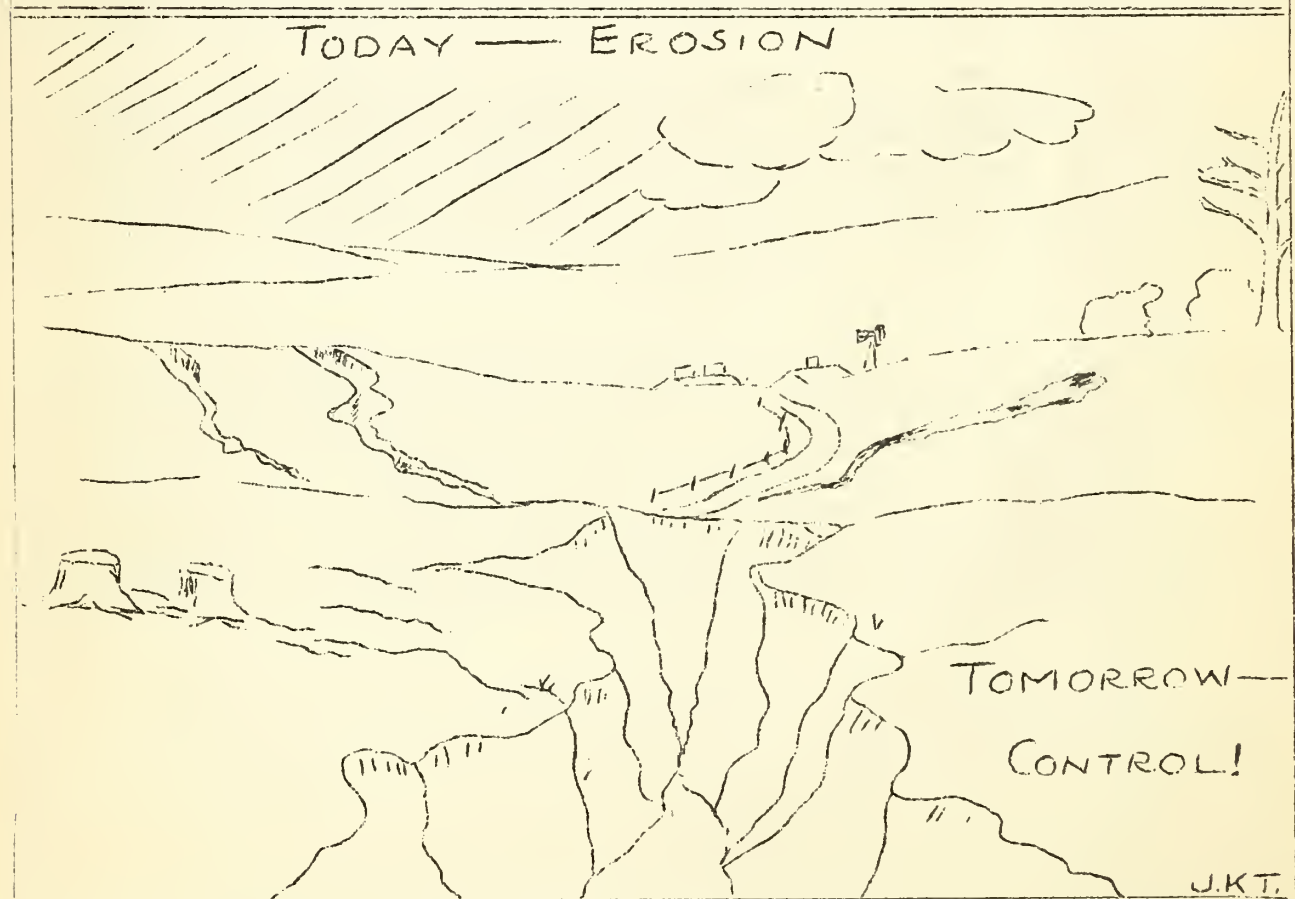
There were three primary purposes for making this survey. The first was to determine existing economic and social conditions and the factors affecting labor income on farms in this area. The second reason was to secure basic information to be used in later years for measuring the results of the Soil Conservation program. The third reason was to obtain information that will assist Contact men in putting on a sound program both from the viewpoint of soil and water conservation and good farm management.

The last mentioned purpose cannot be stressed too much. Each farm must be planned on a practical basis. Since this is primarily a livestock producing area, it is considered very important to have a proper balance between the amounts of hay, grain, and pasture available for feed. The Contact men are using the data from the individual farm records, along with the recommended feeding requirements for each type of livestock, as suggested by specialists from the Pennsylvania State College, and the common feeding practices of the more successful farmers of the area. By using this information as a guide and knowing the individual variations on each farm, the Contact man is confident that he can assure a sound set-up and at the same time put into effect a satisfactory program for controlling soil erosion.

YESTERDAY — FERTILITY



TODAY — EROSION



TOMORROW—
CONTROL!

J.K.T.

ARMSTRONG COUNTY

For a number of years I have observed the destructive affects of soil erosion on our farms. Both gully-ing and the not so noticeable sheet erosion have taken the top-soil from the hillsides and lowered the productivity of the farms. The Soil Conservation program as it is being carried out is the most important activity that has been undertaken in a number of years. It is a step in the right direction, in maintaining our soil fertility, which we know is our most important factor on the farm. The methods advised by the Soil Conservation Service will assist the farmer in reducing his cost of maintaining that fertility.

While strip farming is not new to many Armstrong County farmers, it has not been followed and emphasized as much as the Soil Conservation Program emphasizes it. The improvement of pasture lands is of great importance in reducing the costs of livestock production. Many hillsides too steep to be used for pasture are being planted to trees for the production of lumber and fence posts. In addition trees will assist in the conserving of our water supply and will retard the run-off of water and fertile top-soil. Good pasture provides better food for livestock and requires less grain to be fed, which is an important factor in lowering the costs of producing milk and beef.

From my observation of the program as a whole, it is putting the land to the use for which it is best suited. I believe that every farmer in Armstrong County should avail himself of the opportunity to cooperate in this program. It will lead to a more productive and prosperous agricultural community, which means more prosperity to every citizen.

County Agent
Armstrong County

ARMSTRONG COUNTY
INDIANA COUNTY

INDIANA COUNTY

I have been personally interested in watching the development of the Soil Conservation Program as it is being carried out in Indiana County. In my observation, the plans are in accord with good sound farming practices. There is nothing more important in the agricultural program than the development and maintenance of soil fertility. The Soil Conservation Program puts emphasis on the important factors which help to conserve and build soil fertility.

Strip farming is not new to many farmers in Indiana County. Pasture improvement and the growing of more legume and high quality forage crops is an important factor in low cost of milk or meat production. Cost of production records in the Dairy Herd Improvement Associations show that good pasture produces milk at the lowest cost. Too many of our pastures are only exercise lots. Higher quality legume hays mean less grain feeding. The planting of forest trees on the steeper slopes and other land undesirable for pasture or tillage meets with general approval. Many land owners are becoming interested in planting locust for future fence post material. Foresters report that no other tree gives such quick money return as Black Locust. With our chestnut gone, Black Locust is sure to increase in demand as a fence post material. In spite of the Locust borers, they seem to grow very rapidly and from the standpoint of soil conservation they are unexcelled. Soil conservation is of concern not only to the land owner but to the public in general who are affected by floods, silting of reservoirs and navigation channels.

John W. Warner
County Agent
Indiana County

DEPARTMENT OF FORESTRY AND WILD LIFE

Wild-Life Conservation: Its Value to the Farmer

Few farmers have realized that the wild-life on their farms has a very real and definite cash value. The proper management and development of this wild-life is an item long neglected, but which is now being recognized more than ever before as a vital and useful farm practice.

The question is often asked, "Why should I try to encourage birds on my farm?" "What difference does it make whether I have birds or not?" Last year in this country we lost two billion dollars worth of agricultural and forest crops through damage caused by insects. We would have lost five hundred million dollars more had it not been for the activities of birds. We have about 350 million acres of land producing agricultural products and about 200 million acres of forest. The loss per acre of active land is thus about \$3.50 per year. If you have 100 acres you lose \$350 each year to insects. If you doubled the number of birds on your hundred acres, you would cut down your loss about 25%. Two full hours of work every day on the farm goes to feed insect appetites. This means that for the whole country the labor of a million men is wasted each year because of the insects which feed on our crops.

The more birds we get on our farms, the less insect life we will have. We always have a stock of breeding birds present, so if we provide more food and more protection for them, we can increase their numbers. In doing this we eliminate more insect pests.

Damage by mice, rats, and other rodents is known to be considerable. Ten field mice to the acre on 100 acres of meadow land actually consume 11 tons of grass or $5\frac{1}{2}$ tons of hay a year. One of the ways to fight rodents is to let the hawks and owls do it. The greater part of the food of most hawks and owls is composed of rodents. The lowest possible estimate of the cash value per year of a hawk or owl to the farmer is twenty dollars, based on the number of rodents he consumes. (This does not apply to the hawks known as "Blue-Darters" or to the Great Horned Owl)

The methods of encouraging birds are simple. We can give them more food by planting fruit-bearing trees and shrubs, leaving a little grain for them at harvest time, and putting out food for them during the winter months. We can offer them protection by letting our fence rows support a growth of shrubs, by planting out bushy trees and shrubs in unused parts of the farm, and by making certain that their nests are undisturbed during the breeding season. All these things the Soil Conservation Service is willing to help the farmer do.

So much for only one aspect of the value of wild-life. One could point out the value of the fur crop, the fine opportunities created for sport, recreation, and hunting, the food value of the game birds, and the aesthetic value of merely having the birds about. The worth of these many aspects, as well as the particular one of insect-control, is realized by the farmer who is alert and ready to make the most out of his farm. Wild-life conservation takes very little time and almost no cash outlay, but the returns from this small expenditure are immense.

CCC Camps and Activities

Up to the present time nine camp areas have been selected and approved for Pennsylvania. They are as follows:

| | |
|---------------|--------------------------------|
| S. C. S. Pa-1 | Home, Indiana Co. |
| S. C. S. Pa-2 | Sprankles Mills, Jefferson Co. |
| S. C. S. Pa-3 | Slickville, Westmoreland Co. |
| S. C. S. Pa-4 | Waynesboro, Franklin Co. |
| S. C. S. Pa-5 | Sligo, Clarion Co. |
| S. C. S. Pa-6 | Shelosta, Indiana Co. |
| S. C. S. Pa-7 | Glen Rock, York Co. |
| S. C. S. Pa-8 | Lancaster, Lancaster Co. |
| S. C. S. Pa-9 | Todd, Huntingdon Co. |

The first camp to be set up and to function in Pennsylvania was S.C.S. #1, known as Camp Kinter and located at Kintersburg, Rayne Township, Home, Pennsylvania. It was started in temporary quarters April 22, 1935. On April 25, 1935 the work of 152 boys was released to the E.C.W. Camp Superintendent and active field work was then started.

The progress of the work for this camp up to July 31, 1935 is as follows:

| | |
|--|-------|
| Rods fence built | 5,072 |
| Small reservoirs constructed | 1 |
| Sq. Yds. of bank sloping | 4,556 |
| Temporary check dams | 78 |
| Sq. Yds. gully tree planting | 5,090 |
| Lin. Ft. diversion ditch | 1,129 |
| Acres of gully area treated | 57 |
| Man Days in Misc. Erosion Control Work | 256 |
| Sq. Yds. of rock riprapping | 8 |
| Acres of trees planted | 75 |
| Man Days in nursery work | 593 |
| Lbs. of Hardwood tree seed collected | 55 |
| Man Days fighting forest fire | 60 |

| | |
|--|-----|
| Man Days of preparation and transportation of materials | 419 |
| Lineal feet of pipe line | 837 |
| Miles of minor road | 0.3 |

Camp S.C.S. #5 at Sligo, Clarion County, Pennsylvania is now starting to get under way. Its work to date has been confined to the mapping of the farms whose operators have expressed their desire to cooperate with the Soil Conservation Service. A total of 1523 acres have been mapped to date.

Camp S.C.S. #7 Glen Rock, York County, Pennsylvania has also been started. Approximately 100 enrollees are being used daily in the construction and maintenance of a forest tree nursery.

Only two of the six remaining camps have been assigned their quota of enrollees. All will be taken over and work started just as rapidly as enrollees, supervisory personnel, equipment, etc., are selected.

Visitors are welcome in the camps at any time. There is on duty at all times some member of the project supervisory personnel who will be glad to give any information pertaining to the camp and progress of the work.

Along with the soil conservation activities of the E.C.W. camps, there is stressed the man-building program. An educational program covering academic, technical, vocational, avocational, first-aid, field and practical instructions are promoted and offered wherever possible. This work is handled and directed by an educational advisor. It is the policy of the project personnel and the Soil Conservation Technicians to cooperate and give whatever assistance possible to the Educational Director in this work. The aim of this educational phase of camp life is to develop the characters of these young men.

EDUCATIONAL ACTIVITIES

One of the most important phases of the Soil Conservation work is that of education. It is desirable that everyone should know just what Soil Conservation means in its complete sense. Many departments are involved, but all are working together, all striving in unison for an ultimate goal. It is with this idea in mind, that of showing how each department fits into the conservation picture, that we summarize in the following statements:

1. That talks are available by Soil Conservation men on all phases of the work.
2. That numerous talks have already been given before Commercial and Service Clubs, and a variety of young peoples organizations, by various Department Heads. These talks have often been illustrated with either lantern slides or motion pictures.
3. That the Soil Conservation Service extends an offer to farm groups, church organizations, clubs, schools, granges, fairs, and young peoples organizations to present talks and demonstrations on the Soil Conservation activities.
4. That the Soil Conservation methods might even be embodied in the school curriculum - particularly in agricultural schools and in the higher grades of grammar schools in agricultural regions.

NEW SOIL CONSERVATION PROJECTS IN PENNSYLVANIA

Of 93 new projects or watersheds selected in the United States by the Soil Conservation Service in Washington, D. C., Pennsylvania has been awarded three. These three new projects have been approved and are located in Westmoreland, Lancaster and Franklin Counties.

The Westmoreland County Project will be known as Beaver Run Watershed with offices probably located in Vandergrift or Apollo. It will comprise about 35,000 acres under the direction of Project Leader Harry Kimmel.

The Lancaster County Project known as the Octararo Creek Watershed covering about 30,000 acres, with offices in Lancaster, is already well under way. A large forest tree nursery has been established here to supply the farmers on all the projects with trees for planting. Project Leader Norman Garber is in charge of this project.

The Franklin County Project, comprising about 26,000 acres, and located on Little Antietam Creek has just been started. Offices will be located in Waynesboro, Pennsylvania, and John Brogger will be the Project Leader in charge.

Camp work areas have been located in York, Clarion and Huntingdon Counties.

York County has started its program with headquarters and C.C.C. Camp located at Glen Rock, Pa. A number of farms have already been signed up and soilsmen are now at work making maps of these farms. Since July 25, 1935, 1700 acres have been mapped by the soilsmen, 385 rods of fence surveyed, 1200 feet of diversion ditch marked off, 350 feet of gully work control dams planned, 24 acres outlined and prepared for tree planting, 35 acres of new pasture to be inaugurated and strips planned to care for more than 300 acres on the more gentle slopes.

Clarion County with headquarters at Sligo, Pa., has started its program with a number of farms signed up. A preliminary survey of about 5,000 acres has been completed with about 2,000 acres mapped entirely. The soils maps are progressing and new cooperators are being signed daily. The farmers in this region see more clearly than ever the need of "soil conservation", in the light of the damage done by recent storms.

The Huntingdon County camp, near Todd, Pa., is just about to start but will undoubtedly progress rapidly as soon as it gets under way.

All projects in Pennsylvania, Delaware and the New England States will be under the supervision of Regional Director, Dr. Austin L. Patrick.

ITEMS OF PARTICULAR INTEREST

DID YOU KNOW THAT-----

Pasture may be utilized more advantageously by rotation. This may be accomplished by the division of single pastures into 3 pastures by fencing, then grazing each area 1/3 of the grazing season. A pasture rotation table is given below. If this plan is followed, some of those hard grazed pastures will be given rest periods, during which the grass can reseed and thicken up considerably. By this system of deferred grazing, a marked improvement should result at the end of a six year period. The fields are here number as 1,2 and 3.

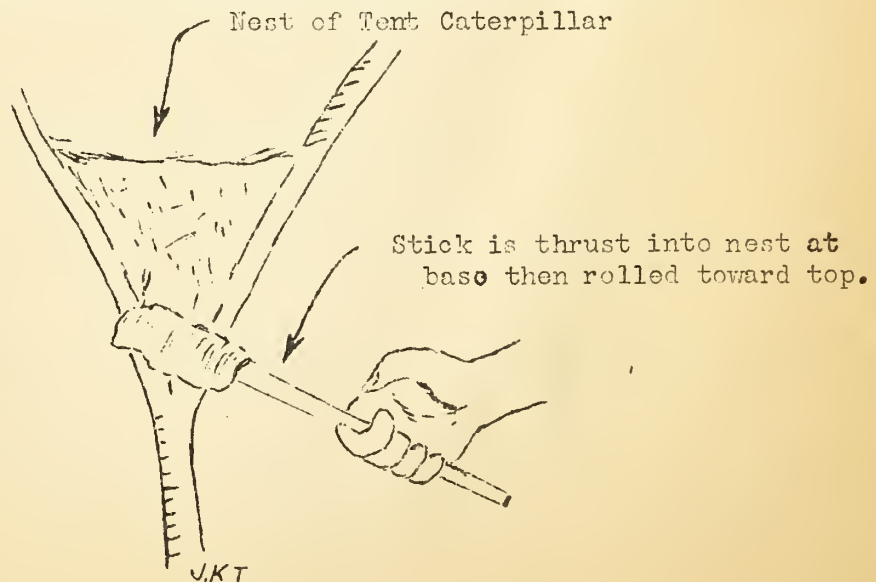
| | <u>Number of Pasturo</u> | | |
|---------------|--------------------------|-----|-----|
| | 1 | 2 | 3 |
| 1st year----- | 1st | 2nd | 3rd |
| 2nd year----- | 2nd | 1st | 3rd |
| 3rd year----- | 1st | 3rd | 2nd |
| 4th year----- | 2nd | 3rd | 1st |
| 5th year----- | 3rd | 2nd | 1st |
| 6th year----- | 3rd | 1st | 2nd |

The above chart gives the rotation with reference to the time of year it will be grazed.

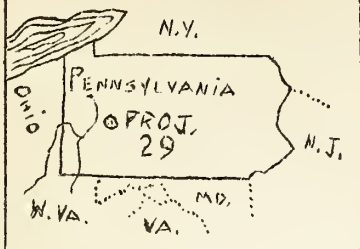
DID YOU KNOW THAT-----

The oldest known living thing is a tree. By planting trees you not only prevent erosion and bring back fertility to the soil, but you erect living monuments on your farm. When death comes man is soon forgotten, but the acceptance of such a far-seeing program will be marked in years to come by mature forests and a more productive farm.

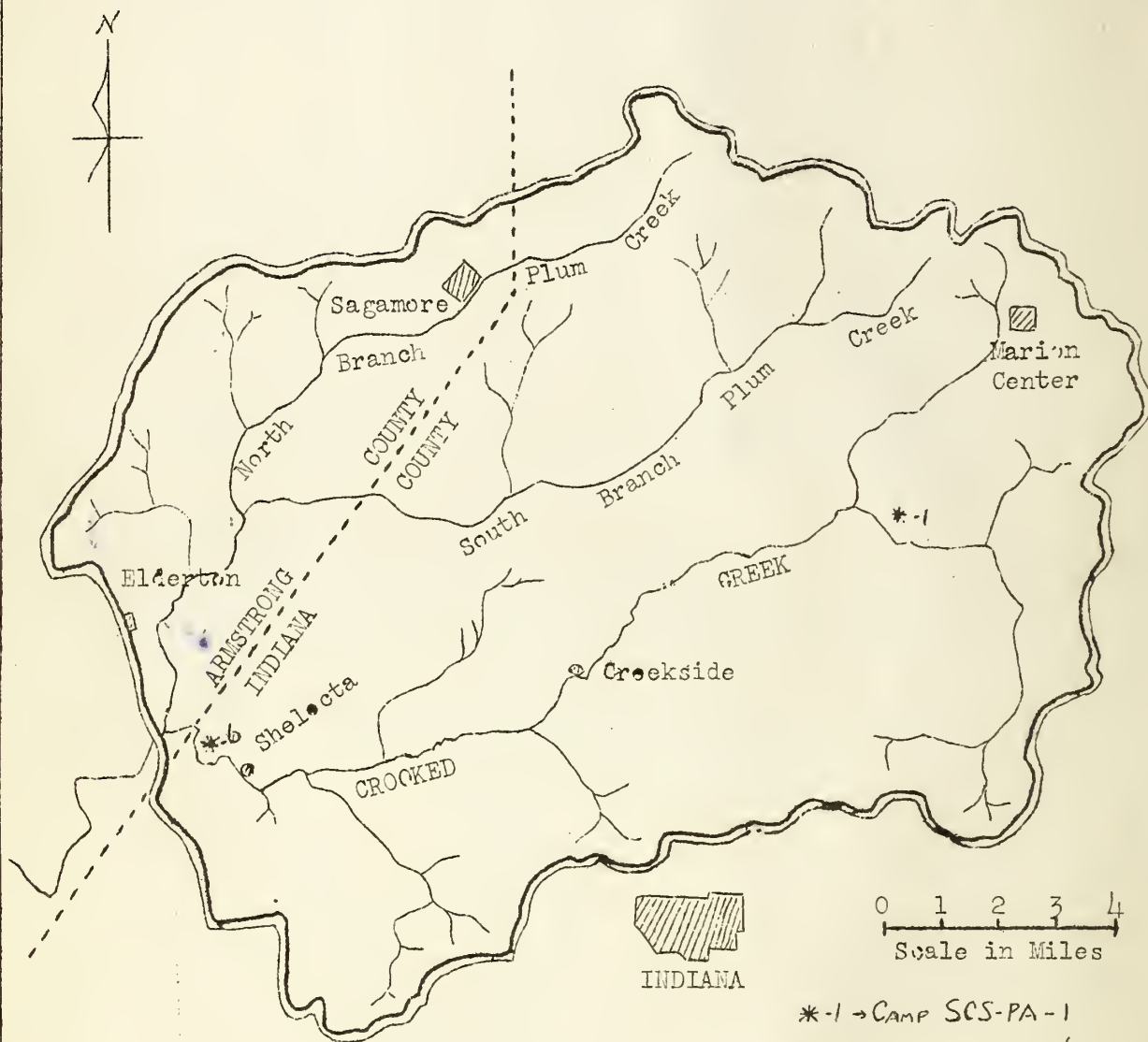
A PRACTICAL METHOD OF DESTROYING TENT CATERPILLARS



After nest and caterpillars have been rolled up on stick, it may be ground up under the heel or burned.



MAP OF CROOKED CREEK EROSION CONTROL PROJECT NUMBER 29



*1 → Camp SCS-PA-1
*6 → " " " -6

- LOCATION -- Armstrong and Indiana Counties, Pennsylvania.
- AREA -- Approximately 120,000 acres.
- FARMS -- Approximately 800 in area.